DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Stack Test Observation

N223929240

FACILITY: Kirtland Products LLC - Arete Industries, Inc.		**SRN / ID:** N2239
LOCATION: 1 ALTAIR DR., BOYNE CITY		**DISTRICT:** Cadillac
CITY: BOYNE CITY		**COUNTY:** CHARLEVOIX
CONTACT: Tom Johnson ,		**ACTIVITY DATE:** 04/21/2015
STAFF: Kurt Childs	**COMPLIANCE STATUS:**	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Observe PM, PM10, PM2.5 and VOC stack testing of FGGRINDER/DRYER and PM, PM10, PM2.5 testing of EUBAGHOUSE.		
RESOLVED COMPLAINTS:		

Stack Test Observation

On 4/21/2015 I attended stack testing at Kirtland Products that was required by the conditions of PTI 47-11D. The required testing was for PM, PM10, PM2.5, and VOC for FGGRINDER/DRYER and PM, PM10, and PM2.5 for EUBAGHOUSE. The stack testing was being coordinated by ERM and conducted by Stack Test Group, Inc. My contact for each day of the test was Mr. Tom Johnson. Throughout the test, Mr. Johnson provided access to process operating parameters and data. Weather conditions were overcast with 10 – 15 mph winds from the WSW and temperatures in the lower 40's.

FGGRINDER/DRYER was being tested for all of the pollutants listed above. Mr. Rob Dickman of AQD Technical Programs Unit also attended the test. Each test consisted of three one-hour runs. Throughout the test the FGGRINDER/DRYER stack exhibited an attached water vapor plume and faint visible emissions at the tail of the water vapor plume. Emissions from this stack are controlled by a cyclone. I conducted an odor survey during the first test run and a VE reading during the third test run. The following process operating data was collected during the test:

Time	Green Wood Moisture Content %	Green Wood Throughput (dryer feed rate) lb./hr.	Dryer Temperature (degrees F)	Comments
9:25 AM	48.22	20,214	925	
11:30 AM			600	Conducted Odor Survey
1:45 PM	48.30	20,150	800	
2:50 PM	49.07	20,634	800	
4:51	48.49		750	Conducted VE Reading

Additionally I observed VOC sample readings of 128 ppm and 154 ppm on the VOC analyzer during the test.

Green wood moisture content is determined by collecting a sample of woodchips from the dryer feed and testing them in a "Computrac 5000" analyzer. The moisture data is entered into process log sheets. The greenwood moisture content readings above were from the facility log.

The process throughput rate was determined by diverting the dryer feed and collecting the wood chips over a timed period (usually around 90 seconds) The amount of wood chips collected is weighed and a pound per hour feed rate derived. The procedure was followed several times throughout the test and at least once during each test run. Throughout the test the feed rate was consistently above 20,000 lbs/hr.

Dryer temperature is monitored on the process control system and is also recorded on a circular chart. I took the above readings from the circular chart during each test run. I believe the wood moisture content, green wood throughput, and dryer temperatures were representative of normal maximum operating conditions.

Stack Test Group, Inc. personnel conducted half-hour VE readings on the FGGRINDER/DRYER stack during each test run. I conducted one 15 minute VE reading during the third test run (copy attached). Due to the overcast sky and the nature of the plume I took these readings from a location on a hillside approximately one quarter of a mile away from the stack. This allowed me to see the plume against a more contrasting background of the surrounding hills. Most readings were in the 5% to 10% range with a 0% readings occurring when the plume was looping up against the sky background.

During the first test run I conducted an odor survey in areas downwind from the plant. I could detect level 2 wood smoke odors at the entrance to Altair Dr. and milder odors (level 1) at the next closest location (number 2).

During the test I observed that the sample collection for FGGRINDER/DRYER was taking place in the stack port that is located below the duct where the exhaust from EUGRINDER enters the stack. As a result, the collected sample was only representative of the emissions from EUDRYER not FGGRINDER/DRYER as specified in SC V.1. of FGGRINDER/DRYER in PTI 47-11D. The test plan provided by ERM also specified testing of FGGRINDER/DRYER as did the 4/7/2015 test approval letter from Rob Dickman. There is not a test port located above where the EUGRINDER duct enters the stack.

This issue was brought to the attention of the company and a discussion was held between Rob. Dickman and I with Mr. Johnson and Mr. Tom Monley of Kirtland Products, Inc. as well as Matt Kwiatkowski of ERM and Stack Test Group, Inc. staff. The duct from EUGRINDER to the FGGRINDER/DRYER stack also contains test ports and it was decided that once the EUBAGHOUSE testing was complete, the sampling equipment would be moved to this duct and three test runs would be conducted for EUGRINDER while maintaining process operating conditions.

The timing of the testing allowed the third test run of EUDRYER to overlap with the first test run for EUGRINDER. And the remaining two EUGRINDER test runs were completed the same day under similar operating conditions. All operating data from the test was to be provided to ERM for the test report.

The EUBAGHOUSE stack test was conducted concurrently with FGGRINDER/DRYER. EUBAGHOUSE controls emissions from material handling equipment throughout the process. All of this equipment was in operation at the time of the test except for the packaging line which was operated at my request during the third test run. EUBAGHOUSE differential pressures observed during each test run were 0.6", 0.7", and 0.8". No visible emissions were noted from the EUBAGHOUSE stack.

NAME _____ DATE 4-27-15 SUPERVISOR _____